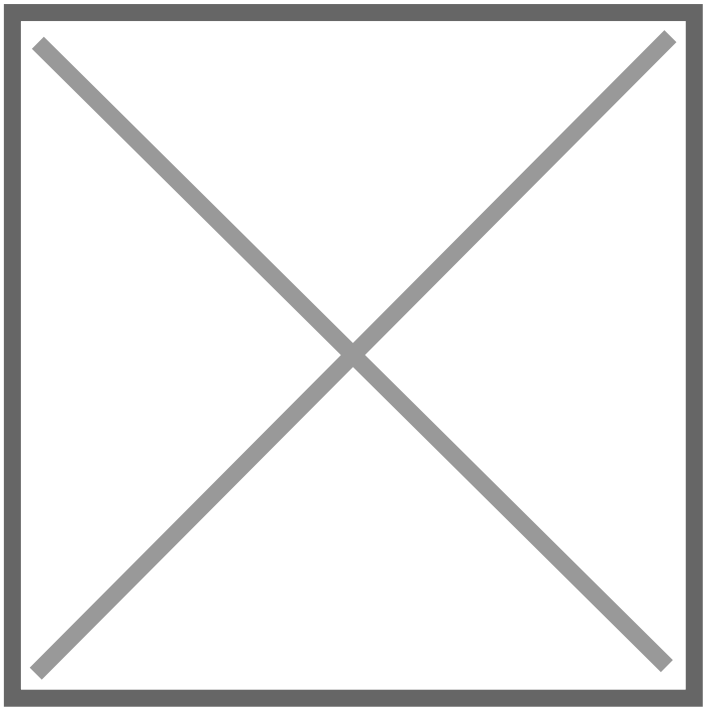
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Is 'Mission Biodiesel' yet to take off?

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Is 'Mission Biodiesel' yet to take off?



Over last one decade, there has been lot of buzz about the biofuels being the next stop for automobile industry. While the major reason was fast depleting non-renewable sources of energy, the environmental concerns too played an important role in pushing research in various government institutes. However, nothing moved forward in its actual production.

Compared to US where biodiesels are mainly derived from Soybean oil and in Europe from the Sunflower oil, India is deficient in edible oils, non-edible oils may be material of choice for producing biodiesel like Jatropha, Karanjia and Rice bran oils, etc. Also the fact is that at the moment in India, biodiesel is in research phase. Therefore, the economic viability, especially in case of smaller segments such as road transport can be known only in longer run.

Recently the union cabinet chaired by Prime Minister Narendra Modi on February gave its approval for amending the Motor Spirit (petrol) and High Speed Diesel (diesel) control order for Regulation of Supply, Distribution and Prevention of Malpractices dated December 19, 2005. In a glaring contradiction of what was set as a target and actual policy, till now, only state-owned oil firms and only those private firms investing Rs 2,000 crore in oil infrastructure were allowed to retail petrol and diesel. And ironically biodiesel, which is to be doped in diesel before being used was put under this rule too without much analysis.

This decision is expected to encourage the production and use of bio-diesel in the country. The amendment will allow private bio-diesel manufacturers, their authorized dealers and joint ventures of oil marketing companies (OMCs) authorised by the Ministry of Petroleum & Natural Gas (MoP&NG) as dealers and give distribution functions to them for the limited purpose of supply of bio-diesel to consumers. Also, the Rs 2,000 crore investment "will also be relaxed and a new clause added to give marketing rights for bio-diesel to the private bio-diesel manufacturers, their authorized dealers and JVs of OMCs authorised by the MoP&NG for direct sales to consumers.

The amendment was made because users faced problems in sourcing biodiesel. With the relaxation, bulk users like Railways can buy biodiesel directly from manufacturers and dope in diesel for running locomotives.

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"As the price of diesel is already deregulated and determined by the market, there is no economic justification in preventing private bio-diesel manufacturers, their authorised dealers and JVs of OMCs authorised by the MoP&NG from selling bio-diesel directly to consumers subject to their product meeting prescribed BIS standards," said the statement from MoP&NG.

A look at ground level

Providing a peep into current scenario, Dr Dheeban Chakravarthi Kannan, Research Fellow, The Energy and Resources Institute (TERI), "A National Policy on Biofuels was adopted in 2009. However, the production levels have been modest. Bioethanol production has fluctuated between 0.1 and 0.3 mtoe/year recently and biodiesel production has fluctuated between 0.01 and 0.05 mtoe/year. Ethanol tends to get
diverted to potable and industrial markets due to better prices and the present Jatropha germplasms are not adequate for wasteland cultivation. The overall scope of these biofuels is limited - about 1 mtoe/year and 10 mtoe/year respectively, due to feedstock availability."

In India, the road transportation has not been involved in the biodiesel programme except few experimental cases. The first bus using ethanol has been plying in Nagpur for the past three months, and it has been a success till now. However, there are questioning reports about the actual economical viability due to high costs. Mr Nitin Gadkari, union minister of road transport, highways and shipping, while speaking at an event in Delhi revealed, "Our government is working closely on assessing the reach of biofuels and other sustainable fuels. We are also in the process of experimenting with biodiesel and bio-CNG. It is that time for the economy and country, when we should give the highest priority to alternative and sustainable fuels. In all this, we also want to promote our Ã¢â?¬?Make in IndiaÃ¢â?¬Å¸ campaign and utilize the home-grown technical knowhow to meet our demands."

With about 185 million tonnes/year purchased from outside, 80 percent of India's crude oil consumption depends on imports. The crude oil import bill is Rs 6,000 billion per year, which amounts to 34 per cent of the total import bill. The statistics show that it places a huge strain on Indian economy and thus explains a need for sustainable bioenergy policy.

Railways to increase its consumption

Indian Railways consume over two billion litres of diesel every year. For this Railways have to foot a bill of over Rs 15000 crore annually. Therefore, even a small reduction in fuel consumption through blending with Bio-Diesel will result in a substantial savings in the fuel bill. In addition, the attendant benefits of a cleaner environment would also accrue on account of lower carbon emission, without requiring any change in the locomotive design. Taking that in account, the Indian Railways has decided to promote use of alternative fuels like bio-diesel in a big way.The trials with 20 percent blending on diesel engine test bed at RDSO has been conducted. Field trials have also been done with B5/B10 and many units like Shakurbasti, Kharagpur, Perambur etc. have manufactured bio-diesel using small plants of upto 2000 literes per day.

However, these forays by Indian Railways met with limited success. Indian Railways have also set up an Indian Railways Organisation for Alternate Fuels (IROAF) to promote biodiesels and other environmentally benign alternate fuels. They have also been given the mandate to facilitate setting up of trans-etherification facilities for converting plant residues into biodiesels. These facilities could be set up in the country on the PPP mode.

Giving a picture of how Indian railways could push the biodiesel production and consumption, the Petroleum Conservation Research Association's spokesperson, elaborates ,"Indian Railways is the largest user of diesel, about two million MTPA. Indian Railway is also owner of very large area of land, which presently is without organized plantation. Railways have shown interest to plant the biocrops along the rail tracks and other land available and it is estimated that the railways can produce enough biodiesel to replace about 5 to 10 percent of diesel required for their use."

Meanwhile other alternatives are being tried out too. Railways have modified the 1,400 HP engine to run on dual fuel - diesel and CNG - through fumigation technology.

The Rewari passenger train flagged off recently by the railway minister, Mr Suresh Prabhu, will consume over 20 per cent of the CNG, covering 81 km long distance in about two hours. Railways plans to run more such CNG trains in due course to reduce diesel consumption. Development of a CNG conversion technology which will permit utilisation of over 60 per cent CNG is also underway, he said, adding "switch over to LNG technology is also being planned as that will enable higher fuel carrying capacity.

However, it is crucial that the biofuels used must be genuinely sustainable and cost effective. Unless these two imperatives are met, we would not be able to proliferate biodiesels in the manner we intend to.